

INFORMATION REPORT

TO:	Mayor and Members Board of Health
COMMITTEE DATE:	May 14, 2018
SUBJECT/REPORT NO:	Suitability of Bayfront Beach as a Public Beach (BOH16008(b)) (City Wide)
WARD(S) AFFECTED:	City Wide
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Council Direction:

Not Applicable.

Information:

The purpose of this report is to inform Council of the outcome of activities completed in 2017 in support of recommendations from the Bayfront Beach Water Quality Investigations Study for the rehabilitation and maintenance of Bayfront Park to achieve reliable safe water quality for swimming.

In February 2016, shortly after initiation of the study, Public Health Services (PHS) advised Public Works Environmental Services Division that Bayfront Beach should be closed until action is taken to improve the water quality. Report BOH16008 - Suitability of Bayfront Beach as a Public Beach reported on the closure by Public Health Services. Environmental Services staff took immediate action and the beach has since been closed to swimming.

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On March 21, 2016, following the closing of Bayfront Park Beach to swimming and in response to report BOH16008 - Suitability of Bayfront Beach as a Public Beach (Item 5.2), the Board of Health directed the following:

That staff be directed to provide the Board of Health with a presentation on the outcome of the study on the Suitability of Bayfront Beach as a Public Beach, in the fall of 2016.

On April 20, 2017, staff reported back to the Board of Health on the study outcomes and preliminary recommendations outlined in Report (BOH16008(a)). The study findings confirmed the following factors are adversely affecting the water quality at Bayfront Beach:

- Physical characteristics of the beach, e.g. beach slope, sand moisture and grain size, and water circulation near the beach;
- Sources of pollution near the beach (predominantly waterfowl faeces) and within the general watershed of Hamilton Harbour, and;
- The occurrence of cyanobacteria blooms (Blue Green Algae).

To mitigate these factors, it was recommended to start with low cost interventions in 2017 that might improve water quality, via monitoring implementation of the intervention and water quality. Interventions were also implemented at Pier 4 beach work due to its proximity to Bayfront Beach and similar water quality issues.

Report (BOH16008(a)) also indicated that prior to reopening Bayfront Beach for public use, action to improve the water quality needs to be implemented and a consistent improvement in water quality needs to be verified.

Recommended measure(s) included the continued use of bird control (with enhancements and new methods) and beach sand management strategies (including increased grooming and cleaning) as the best and most cost effective way to manage water quality related to *E.coli* contamination. For Blue Green Algae (BGA) blooms it was recommended to test the use of ultrasound technology to reduce its impact at the beach.

Through the 2017 season the study team was able to implement and measure the effect of bird control measures, but with high water levels, increased beach grooming was not possible as the beaches were under water. Despite implementing these measures throughout the 2017 swimming season, there was only a modest improvement in water quality related to *E.coli* and the use of ultrasound to treat Blue Green Algae had no effect at all. Another method of treating beach sand with hydrogen peroxide was also tested and found to be ineffective at reducing contaminants. To see the water quality

assessment for public beaches in Hamilton see Appendix A – Hamilton Public Health Services 2017 Beach Monitoring Report.

Overall, efforts to improve water quality failed and results in the 2017 Beach Monitoring Report indicate that BGA continues to be the predominant factor in closing the Harbour beaches to swimming (in recent years BGA has been responsible for beach closing greater than 50% of the available swimming days in the season). This is important in that without a practical way to control BGA it is unlikely that there will be a consistent and verifiable improvement in water quality even with significant reduction in *E.coli* contamination of the beach. Without a solution to the BGA issue, the Study Team is not recommending any further remedial efforts to restore the beach for swimming at this time.

Going forward, the Study Team intends to reconvene and discuss opportunities for the beach area on the basis that it will remain closed indefinitely for swimming. This will include revisiting options that envisaged converting the space to a wetland or for another recreational activities. Staff will then report to Public Works Committee respecting on how to proceed.

In the meantime, Parks and Cemeteries staff will continue with bird control measures at Bayfront Park as it is an important element of keeping the park clean and safe and will continue to do the same at Pier 4 Park beach. Although testing of water at Bayfront Park beach will cease, Public Health Services will continue to test water quality at Pier 4 Park beach through the 2018 swimming season. Pier 4 Beach is anticipated to be open and operated as a public beach during the 2018 swimming season. However, PHS will likely recommend closure of Pier 4 Beach (similar to Bayfront Beach) for the 2019 swimming season if a significant improvement in water quality does not occur at Pier 4 Beach during the 2018 monitoring season.

Appendices/Schedules Attached:

Appendix A to Report BOH16008(b) - Hamilton Public Health Services 2017 Beach Monitoring Report